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Starting a Commercial Greenhouse Business

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Introduction

Success in the greenhouse business requires a well-defined market, a good location, significant capital dollars, a well-planned production system, people skills and experience in dealing with the "mechanical" necessities of the business.

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Identify Your Market

When you first look at the Ontario greenhouse industry, you will see that it is quite large, very diverse and extremely competitive at all levels of production and marketing. One of the most asked questions to the OMAFRA advisory staff is "What can I grow to make money on?".

It is critical to take the time to develop your business plan. The business plan summarises your business objectives and how you will attain them. Information on how to prepare your business plan is available in the OMAFRA fact sheet "Preparing a Business Plan", Agdex 811, order #95-077. Financial lenders will be looking for the type of information included in the business plan.

Greenhouse vegetables are either tomatoes, cucumbers, sweet peppers and/or lettuce. The production is geared towards the packers/wholesale market for distribution through the chain stores and fruit/vegetable markets. +80% of the Ontario production is in the Leamington area of Essex County.

Greenhouse flowers include cut flowers, potted plants and bedding plants. The production is either geared towards the wholesale market (chains, garden centres, florists) or in the case of bedding plants may be direct to the consumer in what is called a retail grower situation.

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Location

There are many factors to consider when selecting a site for your greenhouse business. Just because you already have a piece of land does not necessarily mean it will be a good location!

Natural Gas - this is the most efficient of the fuel sources for heating your greenhouses. ie. the cost per BTU is less than oil or propane and since heating may represent from 15-35% of your total operating cost is significant. You will also find less equipment maintenance problems with natural gas. Natural gas should be available at your location and normally you would pay for the cost of making the connection from the outside wall of the boiler room to the boilers/heaters.

Water - a good supply of high quality water is critical to the success of the business. Have the water analyzed for a full range of criteria from a recognized laboratory. The OMAFRA factsheet "Water Quality for Greenhouse Crops" Agdex290/15 will be a good reference. Basically the Total Salts, pH and bicarbonate levels along with some of the specific nutrient ions will guide us. Most parts of Ontario that use Lake Ontario water have good quality but there are some areas that are extremely challenging and not suitable for greenhouse production. New entrepreneurs in the greenhouse business should also be aware of the trend towards growing plants in an "enclosed" system where the irrigation water is captured and re-used.

Hydro - 3 phase power is much more efficient than single phase both in the initial purchase of equipment (motors) and their operation.

An on-site generator will also be an "essential" piece of capital equipment to handle power interruptions of your hydro supply.

Soil - the type and drainage characteristics may be particularly important if you plan on growing the crop directly in the ground. Cut flower crops such as chrysanthemums and snapdragons require lighter, well-drained soils especially for winter production.

Suppliers - to your greenhouse business are important and in particular their closeness/accessibility when equipment fails or supplies are needed in a hurry. It is difficult to have a successful greenhouse business in a "remote" area. As a production facility, the need for a constant supply of "inputs" is on-going.

Customers - and the importance of being close to them whether you are in the wholesale or retail part of the business is important. Large wholesalers in Mississauga, Niagara or Leamington find better communications with grower/suppliers who are close by.

For retail growers where the crop is being sold directly to the public a major cost of doing business is actually getting the customer to your greenhouses. The old adage, the 3 major factors to consider when setting up a retail greenhouse are "Location, Location and Location".

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Capital

The greenhouse business is very capital intensive with the basic structure erected ranging in price from \$6-\$8 per sq. ft. depending on such major options as covering materials, ventilation systems, etc. Next we need to provide heating (both the source and distribution), irrigation (source and distribution), electric service (main connection and interior work), nutrient injection system for the irrigation water complete with pH and E.C. controllers, environmental computer to "run" the heating/cooling requirements with the option of adding humidity, CO2 and irrigation control. Now we need to build some type of support buildings for storage/shipping, staff room, office, etc. Add in some pesticide application equipment, concrete walkways, benching or a crop support system, high pressure lighting for the starting and/or finishing areas AND before long you have a total investment of \$15-\$25 per sq. ft.

One of the realities of the greenhouse business is that the initial capital investment must make a return from operations because the re-sale value is only a fraction of the initial investment.

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Production Systems/Economics

Vegetables

Greenhouse vegetables are usually grown in an artificial media such as rockwool or NFT (nutrient film technique) because there is better control of the total growing conditions compared to growing in the soil.

A one acre size facility may be the starting point needed in order to have any economies for the required equipment (boilers, fertilizer, generator, service/packing building, etc).

Growing Greenhouse Vegetables (OMAFRA pub. #526) describes the various production systems for the main vegetable crops.

There has not been accurate cost of production studies done in the greenhouse vegetable business and we know there is a wide variation of income based on crop yields, market prices and timing of the production. An estimate for gross revenue is \$8 per sq. ft. of greenhouse area for a wholesale grower. Heat cost will be close to \$1 per sq. ft. for the whole year.

Tomatoes are normally planted at a population of 10,000 plants per acre. The main variety is Trust (an excellent red tomato) and a yield in the range of 35-45 lbs. per plant can be expected under excellent conditions. Average price has ranged in the \$.62-\$.90 per pound.

Seedless Cucumbers are normally planted at a population of 5,800 plants per acre. There are a wide range of varieties, each with some special characteristics. The expected yield is in the range of 85-110 cucs per plant with an average price of \$.60-\$.75 each.

Sweet Peppers are normally planted at a population of 10,000 plants per acre. There are a wide range of varieties in the different colours of red, green, yellow and orange. An expected yield is 18-20 lbs per plant with an average price of \$1.80-\$1.90 per pound.

NOTE: The expected yields are from a well managed modern production system and can be drastically lower if any factors are limiting. Contact the OMAFRA greenhouse vegetable specialist or the seed suppliers for an update on recommended varieties.

Flowers

Cut flowers-Some of the more common cut flowers such as roses and chrysanthemums are being cautiously planted now due to the ease of their importation from southern climates (equator countries). This import pressure has also served to lower average prices.

More difficult to import cut flowers such as gerbera, snapdragon, lily and lisianthus are being planted more often. The bulk of the cut flowers are sold through the traditional retail flower shops and as such have not enjoyed big increases in sales. The "Cash and Carry" type of marketing by the large chain stores and independent fruit/vegetable markets is moving an increasing volume of cut flowers.

Yields and therefore revenues will fluctuate greatly but expected gross returns per sq. ft. will be in the \$8-\$12 range.

Potted flowers - can be classified as being on a weekly schedule such as chrysanthemums, violets, begonias, etc. or holidays such as poinsettia, Easter lily and hydrangea. For this type of crop, the cost of production can include the pot, media, plant material(cuttings, bulbs, etc.), growing time on the bench (usually calculated at \$0.15 per sq. ft.

per week) and shipping material (pot cover, box). Revenues are in the \$12 per sq. ft. area but can be significantly higher depending on pot sizes and number of crops per year (ie. turns on the bench).

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The major market for potted plants is the chain store who has taken over to a large extent from the traditional retail florist. Low mark ups, little/no service and strong competition are what has kept retail prices stagnant for potted crops.

Bedding Plants - The Spring production of bedding plants is quite often the starting point for people getting into the greenhouse business probably because of the strong demand for plant material and the relative ease of starting. Many will start with a small hoop-shaped quonset greenhouse, unit heater, ventilation fan and some snow fence benching.

Growers can purchase flats already filled with media, plugs (small, singulated plants) from specialist propagators or buy already transplanted flats for their greenhouse. In short, you can be in business very quickly.

The bedding plant season usually will yield 1.5 turns for the floor space and about 25% additional with overhead hanging baskets. Gross returns are in the \$8 per sq. ft. area. Average wholesale price per flat is \$8 with direct costs being around \$5.

Bedding plants are either sold direct (by retail growers) or to the chain store/garden centres.

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Summary

The wholesale production of either greenhouse flowers or vegetables is largely dependant on the export market (U.S.A.). You will need to have a comfort level with the future of the business as it may be impacted by the value of the Canadian dollar relative to the U.S.

For vegetables, spend some time at some of the large packing plants in the Leamington area, the Ontario Food Terminal and perhaps the Greenhouse Vegetable Growers Marketing Board Office to get a sense of the dynamics of the business.

For flowers, a few mornings at the Ontario Flower Auction in Mississauga or the Ontario Food Terminal will give you an appreciation of the wide variety and excellent quality that is being produced and/or marketed in Ontario.

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References

OMAFRA Publications

Pub. 365 Pest Management Recommendations. Contact the Publications Order Desk at (519) 826-3700 or 1-888-466-2312

A list of Agriculture and Agri-Food Canada's publications is available by writing to:

Departmental Publication Service, Corporate Services Branch, Agriculture and Agri-Food Canada, Sir John Carling Building, 930 Carling Avenue, Ottawa, Ontario K1A 0C5 phone: (613) 759-6610/6626 or fax: (613) 759-6726. You can also visit their website at: <http://aceis.agr.ca>

There are a number of excellent magazines with a monthly publication that are subscribed to by many Ontario growers:

Greenhouse Canada-222 Argyle Ave., Delhi, Ont. N4B 2Y2

Canadian Florist Magazine-#1,1090 Aerowood Dr., Mississauga, L4W 1Y5

Grower Talks Magazine-P.O.Box 9, 335 N.River St., Batavia, Ill, USA,
60510-0009

Internet Connections/Home Pages

OMAFRA—www.gov.on.ca/OMAFRA has an expanding home page that includes staff, available media & leaf analysis labs, newsletters, upcoming conferences & meetings, etc.

Grower Talks Magazine-www.growertalks.com

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Reference Books

The Ohio Florists Association has an excellent series of reference booklets as follows:

Tips on Growing and Marketing Garden Mums

Tips on Growing and Marketing Hanging Baskets

Tips on the Use of Chemical Growth Regulators on Floriculture Crops

Tips on the Use and Safety of Chemicals, Biologicals, and the Environment on Floriculture Crops.

Tips on Growing Bedding Plants, 3rd Edition.

Identification of Insects and Related Pests of Horticultural Plants-Pictorial Guide.

Tips on Growing Zonal Geraniums, 2nd Edition

Tips on Growing Poinsettias, 2nd Edition

An Introduction to Greenhouse Production

Ball Perennial Manual: Propagation and Production

Grower Talks on Plugs 11

Holland Bulb Forcer's Guide, 5th Edition

Plant Basics, A Manual for the care of Indoor Plants

Note: there are more being added regularly.

Available from:	O.F.A. Services Inc. 2130 Stella Court, Suite 200 Columbus, Ohio 43215-1033 USA
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The Grower Talks "Bookshelf" also has an excellent series of reference books available:

Ball Pest & Disease Manual, 2nd Edition

Plug & Transplant Production-A Grower's Guide

Ball Perennial Manual

Ball Red Book, 15th Edition

Ball Field Guide to Diseases of Greenhouse Ornamentals

Ball Culture Guide: The Encyclopedia of Seed Germination

Bedding Plants IV-A Manual on the Culture of Bedding Plants as a Greenhouse Crop

Diseases of Annuals and Perennials: A Ball Guide

A Growers Guide to Water, Media and Nutrition for Greenhouse Crops

Geraniums IV

New Guinea Impatiens: A Ball Guide

Grower Talks on Retailing

note: there are more being added regularly

Available from:	Grower Talks Bookshelf P.O.Box 247 St. Charles, Ill. 60174-0247 USA
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Conferences/Educational Meetings

There are three major Conferences that have a combination of speaker sessions and trade/exhibit areas that are designed specifically for the commercial greenhouse grower:

Canadian Greenhouse Conference—held in Mid October at the University of Guelph.

The Ohio International Short Course is held in early July at Columbus, Ohio

Grower Expo is held in early January at Chicago, Illinois.

NOTE: The above mentioned magazines, home pages, reference books and conferences is not a complete list but does represent the authors opinion of the major ones. There are a number of "speciality crop" meetings/reference books for a particular commodity that are also excellent. For further information, contact the greenhouse crop advisor nearest to you.

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